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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/666,493	09/19/2003	Kuo-Tang Hsu	N1085-90162	8017

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EXAMINER
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MACARTHUR, SYLVIA

ART UNIT	PAPER NUMBER
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1763

DATE MAILED: 05/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/666,493

Applicant(s)

HSU ET AL.

Examiner

Sylvia R. MacArthur

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1763

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-19 and 29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 and 29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 March 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### RCE

1. The request filed on April 21, 2006 for an RCE is acceptable. An action on the RCE follows:

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-3, 5,7,10, 12, 13, 18, and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jeong (US 6,228,211) in view of Howson (US 6,799,606).

Regarding claims 1, 2, 5, 12, 18, and 29: Jeong teaches a tank 1, a drain opening 18, and a bubbling plate 3 comprising openings 28, see Fig.1.

Jeong fails to teach a regulating means with slats and openings as claimed in the present invention.

Howson teaches a drainage pipe covering fit. Fig.11 illustrates a regulating means (grate 98) that comprises both slats and openings, see also col. 4 lines 52-67. The motivation modify the apparatus of Jeong with the regulating means of Howson is that the grate provides a means of controlling the drainage rate of the process with an accessory that is removably mounted to the drain opening as taught by Howson, see col. 5 lines 55-60. Thus, it would have been obvious for one of ordinary skill in the art at the time of the

claimed invention to provide a grate in the apparatus of Jeong as taught by Howson as a drainage regulating means.

Regarding claims 3 and 13: Jeong further teaches the use of DI water as element 13 in Fig.1.

Regarding claim 7: Jeong teaches that the bubbling plate comprises slats and openings see Fig. 2a.

Regarding claim 10: Jeong teaches that the slats 23 cover the drain openings.

4. Claims 6 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jeong in view of Howson as applied in claims 1-3, 5,7,10, 12, 13, 18, and 29, above, in further view of Shindo et al.

The teachings of Jeong and Howson were discussed above.

Jeong as modified by Howson fails to teach that the regulating means is made of PEEK. Shindo et al teaches a wet etching apparatus wherein the cassette 21 is made of PEEK in col. 7 lines 15-18. Shindo et al further details the optimal physical properties of PEEK that would motivate one to use it as a material of construction in the wet etching environment. Based on this citation it would have been obvious for one of ordinary skill in the art at the time of the claimed invention to construct the regulating means of PEEK.

5. Claims 9, 11, 14, 16, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jeong in view of Howson as applied in claims 1-3, 5,7,10, 12, 13, 18, and 29, above, in further view of Sonoda et al (US 6,616,774).

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The teachings of Jeong as modified by Howson were discussed above.

Jeong fails to teach angling the slats with respect to the regulating plate.

Sonoda et al teaches a wet etching apparatus wherein a rectifying means has openings and angled rods (flow ports 24). See Fig. 1 and col. 4 lines 46-53.

These rods are inclined with respect to the bottom of the tank 20.

The motivation for one of ordinary skill in the art to combine the teachings of Jeong as modified by Howson and Sonoda et al is that the inclining helps the contaminants to drain in a more controlled fashion and faster from the tank see col. 2 lines 45-63. Thus, it would have been obvious for one of ordinary skill in the art at the time of the claimed invention to combine the teachings of Jeong and Sonoda et al to angle the slats and openings of the regulating means to control the direction and rate of outlet flow.

#### ***Response to Arguments***

6. Applicant's arguments with respect to claims 1-19 and 29 have been considered but are moot in view of the new ground(s) of rejection. The prior art of Howson (US 6,799,606) and Meyers (US 5,529,436) both teach the use of a grate that comprises slats and openings to over a drain to control the draining rate.

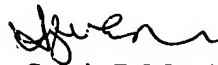
#### ***Conclusion***

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sylvia R. MacArthur whose telephone number is 571-272-1438. The examiner can normally be reached on M-F during the hours of 8:30 a.m. and 5 p.m.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on 571-272-1435. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Sylvia R MacArthur  
Patent Examiner  
Art Unit 1763

May 15, 2006